# U5w5968560A

# United States Patent [19]

Briere et al.

Patent Number: [11]

5,968,560

**Date of Patent:** [45]

Oct. 19, 1999

### [54] BLOW MOLDING DEVICE FOR PRODUCING THERMOPLASTIC **CONTAINERS**

[75] Inventors: Dominique Briere, Le Havre; Léon Colsy, Saint Martin du Manoir; Paul La Barre, Sainte Adresse; Pascal Santais, Le Havre, all of France

[73] Assignce: Sidel, Le Havre, France

[21] Appl. No.:

08/945,089

[22] PCT Filed:

Apr. 16, 1996

[86] PCT No.:

PCT/FR96/00576

§ 371 Date:

Oct. 17, 1997

§ 102(e) Date: Oct. 17, 1997

[87] PCT Pub. No.: WO96/33059

PCT Pub. Date: Oct. 24, 1996

[30] Foreign Application Priority Data

[50]	roi	cign Al	prication 1 Horse	y Data
Apr.	19, 1995	[FR]	France	95 04651
				19/56; B29C 33/30
[52]	U.S. Cl.	•••••	425/192 R;	425/195; 425/522;
				425/541; 249/102
[58]	Field of	Search		425/183, 192 R,
			425/195,	522, 541; 249/102

#### [56] References Cited

## U.S. PATENT DOCUMENTS

467,881	1/1892	Fisher 249/102
1,409,591	3/1922	Schavoir 249/102
3,191,225		Polka 425/541
3,753,641	8/1973	Turner et al 425/541
3,784,344	1/1974	Korsch 425/526
3,871,611	3/1975	Taketa 249/102
4,072,456	2/1978	Appel et al 425/183
5,262,116	11/1993	Von Holdt, Sr 425/192 R
5,288,222		Wieser 425/192 R

5,332,384	7/1994	Abramat 425/522
5,346,386	9/1994	Albrecht et al 425/541
5,358,396	10/1994	Giesen 425/192 R

### FOREIGN PATENT DOCUMENTS

		France 249/102
2613979		
2646802		
		France 425/522
3613543	12/1986	Germany.
3934495	12/1990	Germany.

#### OTHER PUBLICATIONS

"Quick-change systems add to blow molders' market reach", by Patrick A. Toensmeier, Modern Plastics International, Aug. 1991 (pp. 30-31).

Patent Abstracts of Japan, vol. 12, No. 286 (M-727), Aug. 5, 1988, (Abstract of Japanese reference 63-062,710 dated Mar. 19, 1988).

Primary Examiner-Robert Davis Attorney, Agent, or Firm-Sughrue, Mion, Zinn, Macpeak & Seas, PLLC

#### [57] **ABSTRACT**

The invention concerns a device for producing thermoplastic containers, in particular bottles, by the blow-molding or stretch blow-molding of a preheated preform. The device comprises at least one mould consisting of two half-molds (2) each supported by a mould carrier, the two mould carriers being movable relative to each other. Each halfmould (2) comprises a shell holder (9), supported by the respective mould carrier, and a shell (7) which is equipped with a half-impression (8) of the container to be obtained and can be rendered integral in a detachable manner with its shell holder (9) by rapid-fastening means (19-23). The shell (7) and the shell holder (9) are of complementary shapes such that they contact each other at least partially for heat conduction purposes whilst the pipes and connections for circulating and/or heating fluids are provided in the shell holder alone.

# 14 Claims, 3 Drawing Sheets

